

IN THE CLAIM (MARKED UP VERSION)

1. (Once Amended) A communication method for transmitting data from a server to a requesting computer, said method comprising steps of:
 - receiving a request for a data item at the server;
 - receiving a speed indication signal at the server from the requesting computer,
 - wherein the speed indication signal comprises an indicated speed of transmission; and
 - limiting a transmission rate of transmission of [transmitting] at least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server[at a rate based on the speed indication signal].
2. (Once Amended) A communication method according to claim 1 in which the [transmitting] limiting step comprises substeps of:
 - determining a block size based at least on the transmissiann rate[, the speed indication signal];
 - determining a period based at least on the transmission rate[, the speed indication signal]; and
 - transmitting a plurality of blocks of data, each of the blocks having the block size and being transmitted at intervals substantially equal to the time period.

5. (Once Amended) A communication method for transmitting data from a server to a requesting computer, said method comprising the steps of:

- accepting a user request for a data item at a client computer;
- accepting a user input speed setting at the client computer;
- generating a schedule for issuing pause transmission and resume transmission signals based on the user input speed setting, wherein the schedule limits a transmission rate of transmission of at least a portion of the data item across a data link to the requesting computer to be not greater than the user input speed, wherein the input speed is less than the data rate of the data link and the data rate capacity of the server;
- transmitting the user request for a data item to a server computer; and
- sending a sequence of pause transmission and resume transmission signals from the client computer to a server computer according to the schedule.

6. (Once Amended) A communication system for transmitting data from a server to a requesting computer comprising:

- a means for receiving a request for a data item at the server;
- a means for receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission; and
- a means for limiting a transmission rate of transmission of [transmitting] at least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server[at a rate based on the speed indication signal].

7. (Once Amended) A communication system according to claim 6 in which the [transmitting] limiting means comprises:

a means for determining a block size based[,] at least on, the transmission rate[, the speed indication signal];

a means for determining a period based[,] at least on, the transmission rate[, the speed indication signal];

a means for transmitting a plurality of blocks of data, each of the blocks having the block size and being transmitted at intervals substantially equal to the time period.

10. (Once Amended) A communication system for transmitting data from a server to a requesting computer comprising:

a means for accepting a user request for a data item at a client computer;

a means for accepting a user input speed setting at the client computer;

a means for generating a schedule for issuing pause transmission and resume transmission signals based on the user input speed setting, wherein the schedule limits a transmission rate of transmission of at least a portion of the data item across a data link to the requesting computer to be not greater than the user input speed, wherein the input speed is less than the data rate of the data link and the data rate capacity of the server;

a means for transmitting the user request for a data item to a server computer; and

a means for sending a sequence of pause transmission and resume transmission signals from the client computer to a server computer according to the schedule.

11. (Once Amended) A computer readable medium containing programming instructions for data communication comprising programming instructions for: receiving a request for a data item at a server; receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission; and limiting a transmission rate of transmission of [transmitting] at least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server[at a rate based on the speed indication signal].
12. (Once Amended) The computer readable medium according to claim 11 wherein the programming instruction for [transmitting] limiting comprises programming instructions for:
- determining a block size based on, at least, the transmission rate[, the speed indication signal];
 - determining a period based on, at least, the transmission rate[, the speed indication signal]; and
 - transmitting a plurality of blocks of data, each of the blocks having the block size and being transmitted at intervals substantially equal to the time period.

15. (Once Amended) A computer readable medium containing programming instructions for data communication comprising programming instructions for:

- accepting a user request for a data item at a client computer;
- accepting a user input speed setting at the client computer;
- generating a schedule for issuing pause transmission and resume transmission signals based on the user input speed setting, wherein the schedule limits a transmission rate of transmission of at least a portion of the data item across a data link to the requesting computer to be not greater than the user input speed, wherein the input speed is less than the data rate of the data link and the data rate capacity of the server;
- transmitting the user request for a data item to a server computer; and
- sending a sequence of pause transmission and resume transmission signals from the client computer to a server computer according to the schedule.

REMARKS

Applicants have studied the Office Action dated November 6, 2002 and have made amendments to the claims. No new matter has been added. It is submitted that the application, as amended, is in condition for allowance. By virtue of this amendment, claims 1-18 are pending. Claims 1, 2, 5-7, 10-12 and 15 have been amended and new claims 16-18 have been added. See black-line copy of amended claims in appendix above. Reconsideration and further examination of the pending claims in view of the above amendments and the following remarks is respectfully requested. In the Office Action, the Examiner:

(1-2) Rejected claims 1, 3-6, 8-11, and 13-15 under 35 U.S.C. § 102(e) as being anticipated by Gupta et al. (U.S. Patent No. 6,415,326); and

(3-4) Rejected claims 2, 7, and 12 under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al. (U.S. Patent No. 6,415,326).

The Applicants respectfully submitted that the Examiner's rejection under 35 U.S.C. § 102(e) and 103(a) have been overcome based on the aforementioned amendments to the claims and the following remarks.

Overview of the Present Invention

The present invention is directed to a method and system for limiting the usage of data communications bandwidth when transferring a data item across a data link. The present invention limits bandwidth usage by breaking a requested data item into separate blocks that are sent out at intervals that are longer than the time required to send the individual separate blocks so as to limit the average transmission rate of the data item over the data link by extending the time of transmission for the data item. The client computer node of the

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exemplary embodiments of the present invention specifies the limited transmission rate to be used for the requested data item. This allows the client, i.e., the computer that requested the data item, to freely specify the transmission rate limit without regard to any rate that is associated with the data item. The operation of the present invention advantageously allows the client to freely divide the bandwidth capacity of the communication data link among multiple data item transfers that are simultaneously carried by the same data link to the client computer node from one or more server computer nodes. See, for example, specification page 6, line 25 to page 7, line 3.

Exemplary embodiments of the present invention allow a client computer to send a speed indicating signal to a server in association with a data item request. The exemplary embodiments divide a requested data item into separate blocks for transmission. These exemplary embodiments then determine a transmission schedule at either a transmitting node (i.e., the source server or an intermediate server in the exemplary embodiments) or at the client node. The transmission schedules of the exemplary embodiments define substantially equal time intervals at which to transmit each of the separate blocks of the requested data item. The determined intervals are able to be longer than the time that is required to transmit the separate block based upon the data rate capacity of the data link. The data link is then available to transmit other data during the time period after the transmission of the separate block and the start of the next interval.

The independent claims have been amended to more clearly identify the above described aspects of the present invention. The independent claims have been amended to more clearly identify the characteristic of limiting the transmission rate of the data item, as is claimed, for example, in amended claim 1 that includes the following limitations:

receiving a request for a data item at the server;

receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission; and

limiting a transmission rate of transmission of at least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server.

Support for this amendment is found, for example, in the specification at page 6, lines 7-20. No new matter has been added. The other independent claims have also been similarly amended.

Dependent claims 2, 7 and 12 have been amended to conform to the amended language in the independent claims. Support for this amendment is found, for example, in the specification at page 6, lines 7-20. No new matter has been added.

New dependent claims 16-18 have been added that more clearly specify that the "transmission rate is not related to a speed that is associated with the data item." Support for this amendment is found, for example, in the specification wherein the calculation of the transmission rate is described as a function of a user input based upon a fraction of the data link bandwidth. This description is found, for example, in the specification on page 8, lines 22-27, and in FIG. 7.

Rejection under 35 U.S.C. §102(e) as anticipated by Gupta

As noted above, the examiner rejected claims 1, 3-6, 8-11, and 13-15 under 35 U.S.C. § 102(e) as being anticipated by Gupta et al. (U.S. Patent No. 6,415,326). The independent claims have been amended to distinguish over Gupta. The Examiner cites 35 U.S.C. § 102(b)

and a proper rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claims as being anticipated by Gupta.¹

The disclosure of Gupta et al. (U. S. Patent No. 6,415,326) is directed towards a streaming multimedia player that is able to change playback speeds by selecting different media streams. (Gupta, Abstract, Column 6, lines 57-65). The focus of the Gupta disclosure is on techniques for selecting a point within the different media stream that corresponds to the currently displayed point of a currently viewed media stream. (Column 9, lines 5-17; column 10, lines 31-39). Gupta states that a streaming multimedia player in a "client computer renders streaming data as it is received from a network server, rather than waiting for an entire 'file' to be delivered." (Column 1, lines 34-36). Gupta makes no reference to a change in data transmission speed based upon selection of a streaming media data sources with different playback speeds. The Gupta disclosure only teaches selecting different files that have different playback speeds or characteristics without limiting a transmission rate across a data link in any way. Gupta simply does not teach the unique aspect of:

receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission; and

limiting a transmission rate of transmission of at least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server.

¹ See MPEP §2131 "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (Emphasis Added) *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

In contrast to Gupta, the present invention allows direct specification of the average transmission rate for the data transmission across a data link. This maximum data transmission speed is specified in the exemplary embodiments of the present invention by the client computer without regard for any characteristic of the data item being requested. The Gupta references does not teach or suggest these unique aspects of the present invention as are claimed in the amended independent claims, such as amended claim 1, which claims a method comprising:

receiving a request for a data item at the server;

receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission; and

limiting a transmission rate of transmission of least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server.

For the foregoing reasons, amended independent claims 1, 5, 6, 10, 11 and 15 distinguish over the Gupta reference. Claims 3-4, 8-9 and 13-14 depend from claims 1, 6 and 12, respectively, and include all of the limitations thereof. Therefore claims 3-4, 8-9 and 13-14 distinguish over Gupta as well, and therefore the rejection of these claims under 35 U.S.C. §102(e) should be withdrawn.

Rejection under 35 U.S.C. §103(a) as unpatentable over Gupta et al.

As noted above, the examiner rejected claims 2, 7, and 12 under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al. (U.S. Patent No. 6,415,326). The Examiner recites 35 U.S.C. §103: The Statute expressly requires that obviousness or non-obviousness be determined for the claimed subject matter "as a whole," and the key to proper determination of the differences between the prior art and the present invention is giving full recognition to

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the invention "as a whole." The Gupta reference simply does not suggest, teach or disclose the patentably distinct limitations, as are, for example, claimed in amended claim 2, of:

receiving a request for a data item at the server;

receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission;

limiting a transmission rate of transmission of at least a portion of the data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server;

determining a block size based at least on the transmission rate;

determining a period based at least on the transmission rate;

transmitting a plurality of blocks of data, each of the blocks having the block size and being transmitted at intervals substantially equal to the time period.

Moreover, the Gupta reference is directed to the selection of different data items based upon the playback speed selected by a user. No determination, processing associated with or direct limitation of transmission rates across the data link is mentioned in the Gupta reference. The intent, purpose and function of the Gupta reference is the selection of data files or data items which contain streaming media that plays back at different speeds and the determination of the proper starting point within that file for a desired playback experience. The user of the Gupta system do not provide a "speed indication signal" that comprises "an indicated speed of transmission" and thereby explicitly allocates bandwidth usage on the data link, as is set forth in the claims of the present invention. Applicants respectfully assert that a modification of the Gupta reference to the purposes of the present invention destroys the intent, purpose and function of the Gupta invention. The Federal Circuit has consistently held that when a §103 rejection is based upon a modification of a reference that destroys the

intent, purpose or function of the invention disclosed in the reference, such as proposed modification is not proper and the *prima facie* case of obviousness can not be properly made. See *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In further regard to the rejection of claims 2, 7, and 12, the Examiner further took official notice that:

it is well known that when streaming data, the data is provided in blocks wherein the size of the blocks and the period in which the blocks of data would be streamed are determined based upon the indicated or determined speed.

Office Action, Page 4, Section 4.

Applicants respectfully traverse this assertion. Official notice is proper for "facts outside of the record which are capable of instant and unquestionable demonstration as being 'well-known' in the art."² Applicants respectfully request that a reference be cited.³

If, however, the Examiner's statements are based on facts within the personal knowledge of the Examiner, the Applicants respectfully request that the Examiner support these references by filing an affidavit as is allowed under MPEP §707, citing 37 CFR 1.104(d)(2), and as specified in MPEP §2144.03.⁴

² See, MPEP §2144.03, citations omitted.

³ See, MPEP §2144.03, "If the applicant traverses such an assertion the examiner should cite a reference in support of his or her position."

⁴ See, MPEP §2144.03, "When a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner."

As discussed above, amended claims 1, 6 and 12 distinguish over the Gupta reference. Furthermore, amended dependent claims 2, 7 and 12 distinguish over Gupta and are not obvious in light of the teachings, suggestions or disclosures of the Gupta reference, and therefore the rejection of these claims under 35 U.S.C. §103(a) should be withdrawn.

Claims 16-18 have been added by this amendment, and are provided to further define the invention disclosed in the specification. Claims 16-18 are allowable for at least the reasons set forth above with respect to claims 1-15.

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CONCLUSIONS

In view of the foregoing, it is respectfully submitted that the application and the claims are in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

PLEASE, if for any reason the Examiner finds the application other than in condition for allowance, the Examiner is invited to call either of the undersigned attorneys at (561) 989-9811 should the Examiner believe a telephone interview would advance the prosecution of the application.

Respectfully submitted,

Date: February 6, 2003

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